					Docket Number (Optional)		pplication Number		
•	INFO	RMATION DISCLOSUR	EGITATION		MA9658D N	<u> </u>	10/614, 431		'
(Use several sheets if necessary)				Fraser et al.			:		
JUN 2 8 2004 💍			}	Filing Date Group Art Unit 3.73			7 () 1		
			. 14	/	7/7/03		: فخر	1:31	
			TA TRADEMAN	U.S. PAT	ENT DOCUMENTS				
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE		NAME .	CLASS	SUBCLASS		DATE OPRIATE
(M		6,200,606	03/13/2001	3/13/2001 Peterson et al.					
		5,035,708	07/20/1991	Alchas	et al.			· :	
		5,372,945	12/13/1994	Alchas	et al.				
		5,786,207	07/28/1998	Katz et	al.				
		4,820,626	04/11/1989	William	s et al.			:	
		4,883,755	11/28/1989	Caraba	si et al.		·		
		5,486,359	01/23/1996	Caplan	et al.			: :	
		4,458,678	07/10/1984	Yannas	et al.				
		5,837,235	11/17/1998	11/17/1998 Mueller et al.					
/		5,409,833	04/25/1995	04/25/1995 Hu et al.					
W		6,316,247	11/13/2001	Katz et	al.			;	
				FOREIGN	PATENT DOCUMENTS				
	REF	DOCUMENT NUMBER	DATE		COUNTRY	CLASS	SUBCLASS	YES	NO
W		EP0570331	11/18/1993	Europe				:	
		WO8702812	07/11/1987	WIPO					
V		WO8601111	02/27/1986	WIPO	·			:	•
								-3-	
								:	
				OTHER	OCUMENTS (Including A	uthor, Title, De	ite, Pertinent Pag	es, Etc.)	
		U.S. Application No. 09	/936,665, filed 9/1	0/2001, Ka	atz et al., Adipose-Derived	Stem Cells an	d Lattices		
L51	1						:	:	
	_	II S Application No. 00	1052 522 Glad 0/1	0/2001 1/2	atz et al., Adipose-Derived	Stom College	d Lattique :		
4		U.S. Application 110. 07	1732,322, illed 7/1	10/2001, K	ne et al., Auspose-Deriveu	Stem Cens an	io Dattites	:	
EXAMINE	R				DATE CONSIDERED	21	/.		1 7
	•	LAUMFORD			DATE CONSIDERED	3/20/	6		
		l if citation considered, whether lude copy of this form with next			ee with MPEP Section 609; Dr	raw line throug	th citation if not	in conform	anceand

Form PTO-A820 (also form PTO-1449)

VAE 16	<u> </u>						
- m	B		Docket Number (Optional)	Application Number			
-12 NF	ORIG	ATION DISCLOSURE CITATION .	MA9658P -	210/3 16,127 / \$/			
m,		(Use several sheets if necessary)	Fraser et al.				
TOART A THAT	ENE		Filing Date 12/09/2002	Group Art Uzii 3763			
PEXAMINER		CONTRACTOR AND STREET		3103			
DITTIAL		OTHER DOCUMENTS (Including Author, Tit	V				
Avital, L., D. Inderbitzin, et al. (2001). "Isolation, character stem cells." Biochem Biophys Res Commun 288(1): 156-64			haracterization, and transplantation (: 156-64.	of bone marrow-derived nepatocyte			
1		Carmeliet, P. and A. Luttun (2001). "The emerging Thromb Haemost 86(1): 289-97.	ging role of the bone marrow-derived stem cells in (therapeutic) angiogenesis."				
		Castro-Malaspina, H., W. Ebell, et al. (1984). "Hun Res 154: 209-36.	pina, H., W. Ebell, et al. (1984). "Human bone marrow fibroblast colony-forming units (CFU-F)." Prog Clin Bio 36.				
		Coleman, S. R. (1995). "Long-term survival of fat to	ransplants: controlled demonstration	is." Aesthetic Plast Surg 19(5): 421-5.			
Coleman, S. R. (2001). "Structural fat grafts: the ideal filter?" Clin Plast Surg 28(1): 111-9.				1-9.			
		Coleman, W. P., 3rd (1991). "Autologous fat transp	lantation." Plast Reconstr Surg 88(4): 736.			
		Connolly, J. F. (1998). "Clinical use of marrow oste \$257-66.	coprogenitor cells to stimulate osteogo	enesis." Clin Orthop(355 Suppl):			
·		Eremia, S. and N. Newman (2000). "Long-term foliowed at least 12 months after receiving the last of	ow-up after autologous fat grafting: of a minimum of two treatments." De	analysis of results from 116 patients rmatel Surg 26(12): 1150-8.			
		Fukuda, K. (2001). "Development of regenerative congineering." Artif Organs 25(3): 187-93.	ardiomyocytes from mesenchymal ste	em cells for cardiovascular tissue			
		Guerrerosantos, J., A. Gonzalez-Mendoza, et al. (19 study in rats." Aesthetic Plast Surg 20(5): 403-8.	96). "Long-term survival of free fat	grafts in muscle: an experimental			
	1	Horwitz, E. M., D. J. Prockop, et al. (1999). "Trans cells in children with osteogenesis Imperfecta." Nat	Med 5(3): 309-13.				
	X	Horwitz, E. M., D. J. Prockop, et al. (2001). "Clinic osteogenesis imperfecta." Blood 97(5): 1227-31.	al responses to Done marrow transpi	antation in emidren with severe			
EXAMINER		CANERORA	DATE CONSIDERED	the s			
		citation considered, whether or not citation is in conformatepy of this form with next communication to applicant.	ace with MPEP Section 609; Draw line th	brough eliation if not in conformance and			

P098/REV04

PEVO	3		
, w	H	Docket Number (Optional)	Application Number
2 PNF(ORIGATION DISCLOSURE CITATION	MA9658P Applicants	10/316,127 73/
4/71.	(Use several sheets if necessary)	Fraser et al.	
TANKE TRANS	NA .	Filing Date 12/09/2002	Group Art Unit 3763
- DOUBLE LA	OTHER DOCUMENTS (Including Author,	Title, Date, Pertinent Pages, Etc.)	
B	Huang, J. I., S. R. Beanes, et al. (2002). "Rat ext Plast Reconstr Surg 109(3): 1033-41; discussion	ramedullary adipose tissue as a sou 1042-3.	rce of osteochandrogenic progenitor cells."
	Hutley, L. J., A. C. Herington, et al. (2001). "Hu J Physiol Endocrinol Metab 281(5): E1037-44.	man adipose tissue endothelial cells	promote preadipocyte proliferation." Am
	Kern, P. A., A. Knedler, et al. (1983). "Isolation invest 71(6): 1822-9.	and culture of microvascular endot	hellum from human adipose tissue." J Clin
	Lee, J. H., Z. Ilie, et al. (1996). "Cell kinetics of r 77(2): 63-72.	repair after ally) alcohol-induced liv	er necrosis in mice." Int J Exp Pathol
	Lee, P. E., R. C. Kung, et al. (2001). "Periurethra a randomized double-blind controlled trial." J U	al autologous fat injection as treatm rol 165(1): 153-8.	zent for female stress urinary incontinence
	Mizuno, H., P. A. Zuk, et al. (2002). "Myogenic d 109(1): 199-209; discussion 210-1.	differentiation by human processed	lipoaspirate cells." Plast Reconstr Surg
	Murayama, T., O. M. Tepper, et al. (2002). "Dete anglogenic growth factor-induced neovasculariza	ermination of bone marrow-derived ition in vivo." Exp Hematol 30(8): 9	l endothelial progenitor cell significance in 967-72.
	Murry, C. E., R. W. Wiseman, et al. (1996). "Ske Invest 98(11): 2512-23.	letal myoblast transplantation for r	repair of myocardial necrosis." J Clin
	Muschler, G. F., H. Nitto, et al. (2001). "Age-and prevalence of osteoblastic progenitors." J Orthop	d gender-related changes in the cells Res 19(1): 117-25.	ularity of human bone marrow and the
	Nishimori, M., Y. Yamada, et al. (2002). "Health- 99(6): 1995-2001.	-related quality of life of unrelated l	bone marrow donors in Japan." Blood
	Orlic, D., J. Kajstura, et al. (2001). "Transplante Acad Sci 938: 221-9; discussion 229-30.	d adult bone marrow cells repair m	yocardial infarets in mice." Ann N Y
	Orlic, D., J. Kajstura, et al. (2001). "Bone marro	w cells regenerate infarcted myocar	'dium.'' Nature 410(6829): 701-5.
EXAMINER	LANCEORO	DATE CONSIDERED 7	1/2/5
	itial if citation considered, whether or not citation is in conform clude copy of this form with next communication to applicant		ne through citation if not in conformance and

P098/REV04

. Q E. VC	Δ				
	. स्	Docket Number (Optional) MA9658P	Application Number -10/316,127, 43/1		
UN 2 PNF	OR ATION DISCLOSURE CITATION	Applicant(s)			
3.	(Use several sheets if necessary)	Fraser et al.	Group Art Unit		
TO THE PARTY	3 y	12/09/2002	3763		
*EXAMINER INITIAL	OTHER DOCUMENTS (Including Author, Till	te, Date, Pertinent Pages, Etc.)			
	Palma, P. C., C. L. Riccetto, et al. (1997). "Repeate	d lipoinjections for stress urinary inco	ontinence." J Endourol 11(1): 67-70.		
60					
	Pittenger, M. F., A. M. Mackay, et al. (1999). "Mul 284(5411): 143-7.	tilineage potential of adult human me	senchymal stem cells." Science		
	Prockop, D. J., S. A. Azizi, et al. (2000). "Potential use of marrow stromal cells as therapeutic vectors for diseases of the central nervous system." Prog Brain Res 128: 293-7.				
	Rajnoch, C., J. C. Chachques, et al. (2001). "Celluli 121(5): 871-8. t&artType=abs&id=a112937⌖	ar therapy reverses myocardial dysfur	action." J Thorac Cardiovasc Surg		
·	Shi, Q., S. Rafii, et al. (1998). "Evidence for circulating bone marrow-derived endothelial cells." Blood 92(2): 362-7.				
	Strauer, B. E., M. Brehm, et al. (2002). "Repair of i marrow cell transplantation in humans." Circulatio	infarcted myocardium by autologous i in 106(15): 1913-8.	ntracoronary mononuclear bone		
·	Takuhashi, T., C. Kalka, et al. (1999). "Ischemia- ar progenitor cells for neovascularization." Nat Med S	nd cytokine-induced mobilization of be i(4): 434-8.	one marrow-derived endothelial		
	Thomas, E. D. (1994). "Stem Cell Transplantation:	Past, Present and Future." Stem Cells	s 12: 539-544.		
	Werlich, T., K. J. Stiller, et al. (1999). "Experiment Pathol 51(1): 93-8.				
	Yavorkovsky, L., E. Lal, et al. (1995). "Participation of small intraportal stem cells in the restitutive response of the liver to periportal necrosis induced by allyl alcohol." Hepatology 21(6): 1702-12.				
	Yin, L., D. Lynch, et al. (1999). "Participation of di injury induced by allyl alcohol." J Hepatol 31(3): 45				
1	Zuk, P. A., M. Zhu, et al. (2001). "Multilineage cells Eng 7(2): 211-28.	s from human adipose tissue: implicat	ions for cell- based therapies." Tissue		
EXAMINER	LANKSORO	DATE CONSIDERED	2/12/5		
EXAMINER: In	nitial if citation considered, whether or not citation is in conforma	nce with MPEP Section 609; Draw line th	rough citation if not in conformance and		

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

./	OIFE	
BEZ	JUN 2 8 2004 8	
N. C.	FORM 1449°	

XAMINER

INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION

Application Number Docket Number MA9658P . 10/315,127 Applicant Fraser et al. Group Art Unit Filing Date

12/09/2002 :

3763

(Use several sheets if necessary)

		U.S. PA	TENT DOCUMENTS	3			
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS		G DATE IOPRIATE
	5,486,359	January 23, 1996	Captan, et al.				
be		(EXHIBIT 1)					
1	5,728,739	March 17, 1998	Ailhaud et al.				
		(EXHIBIT 2)				٠	
	5,827,740	October 27, 1998	Pittenger	1			
		(EXHIBIT 3)					
	5,827,897	October 27, 1998	Ailhaud, et al.	1			
		(EXHIBIT 4)					
		FOREIGN	PATENT DOCUMEN	ITS			
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANS	LATION
1sv						YES	NO
,	WO 98/04682	February 5, 1998	US	ļ			
\checkmark		(EXHIBIT 5)					
 I	OTHE	R DOCUMENTS (Includ	ing Author, Tille, Date	e, Pertinent Pag	es, Etc.)		· · ·
CBV	Considine, et al., "Paracrine stimulation of preadipocyte-enriched cell cultures by mature adipocytes," American Journal of Physiology 1996 270(5) E895-E899 (EXHIBIT 6)				ocytes,"		
1	Dani, et al., "Differentiation of embryonic stem cells into adipocytes in vitro," J. Cell Sci. 1997 110, 1279-1285 (EXHIBIT 7)				110,		
ļ. — ļ	Entermann, et al., "Relationship between replication and differentiation cultured human adipocyte				cyte		
	precu	precursor cells," American Phys. Soc. 1996 270, C1011-C1016 (EXHIBIT 8) Eslami Varzaneh, et al., "Extracellular Matrix Components Secreted by Microvascular Endothelial Cell				alial Calle	
	Stimu	u Varzanen, et al., "Extra late Preadipocyte Differe	entiation In Vitro," M	ponents Secrete letabolism 1994	43 (7), 9 06-912	IEIHXE)	T 9)
 	Haune	er, et al., "Endothelin-l I	nhibits the Adipose D	differentiation o	Cultured Huma	n Adipocy	re ·
<u> </u>	Precu	rsor Cells," Metabolism	1994 43(2) pp 227-23	2 (EXHIBIT 1	0)	S	
1 /	Haust	nan, et al., "The Influence o-Free Cultures of Strom	t of Extracellmar Mi aLVascube Cells " f	Anim Sci. 1996	n Freadipocyte t 74(9), 2117-212	78 (EXHII	BCT 11)
 	Hui-L	ing et al., "Increased ext	ression of G in mor	ise embryo sterr	cells promotes	terminal	
11	diffen	entiation to adipocytes,"	American Physiologi	ical Society 199.	3 265(6), C1729-	C1735	
I	l (EXH	IBIT 12)					
\	Mark	o, et al., "Isolation of a P ocytes," <i>Endocrinology</i> I	readipocyte Cell Lini oog 136/101 4592.4:	cer /expidit Cer /expidit	: Marrow and Di 13)	iierentiatic	on to
H	Adipo	beer, et al., "A novel me	thad for studying are	adipocyte differ	entiation in vitro	." Intl. J.	Obesity
H	1996	20(Supp. 3), S77-S83 (E	XHIBIT 14)				<u> </u>
11	Soris	ry et al. "From preading	cyte to Adipocyte: D	ifferentiation-D	irected Signals o	l Insulia fr	om the
$N \sim$	Cell Surface to the Nucleus," Critical Review in Clinical Laboratory Sciences 1999 36(1), 1-34						

Avelop XAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

DATE CONSIDERED

^{*}Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

01PE-101		Sheet bar Z
PADE INFORMATION DISCLOSURE STATEMENT	Docket Number MA9658P	Application Number 10/316,137 '43 /
IN AN APPLICATION	Applicant Fraser et al.	
(Use several sheets if necessary)	Filing Date 12/09/2002	Group Art Unit 3763

·	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
100	Vassaux, et al., "Proliferation and differentiation of Rat Adipose Precursor Cells in Chemically Defined Medium: Differential Action of Anti-Adipogenic Agents," Journal of Cellular Physiology 1994 161(2), 249-256 (EXHIBIT 16)
1	Wabitsch, et al., "Biological Effects of Human Growth Hormone in Rat Adipocyte Precursor Cells and Newly Differentiated Adipocytes in primary Culture," <i>Metabolism</i> 1996 Vol 45, No. 1 pp34-42 (EXHIBIT 17)
	Young et al., "Mesenchymal Stem Cells Reside Within the Connective Tissues of Many Organs," Developmental Dynamics 1995 202(2), 137-144 (EXHIBIT 18)
L	
٠	
<u> </u>	
· ———	
'	
EXAMINER 1	DATE CONSIDERED 12 3

EX.MINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw time through citation conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet 7 of 21 Application Number Docket Number -10/316,127 + 731 MA9658P Applicant FORMATION DISCLOSURE STATEMENT Fraser et al. IN AN APPLICATION Group Art Unit Filing Date 3763 (Use several sheets if necessary) 12/09/2002 :

		U.S. PA	TENT DOCUMENTS			
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
6V	5,591,625 (Exhibit 19)	January 7, 1997	Gerson, et al.		٠	
	5,786,207 (Exhibit 20)	July 28, 1998	Katz, et al.			
	5,827,735 (Exhibit 21)	October 27, 1998	Young, et al.			·
	5,827,740 (Exhibit 22)	October 27, 1998	Pittenger			
	5,906,934 (Exhibit 23)	May 25, 1999	Grande, et al.			
	5,908,784 (Exhibit 24)	June 1, 1999	Johnstone et al.			•
	6,200,606 B1 (Exhibit 25)	March 13, 2001	Peterson, et al.			
		FOREIGN	PATENT DOCUMEN	ITS		
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
						YES NO
	OTHE	R DOCUMENTS (Includ	ling Author, Title, Date	e, Pertinent Pag	jes, Etc.)	
•	99(Pt	ett, JH, et al., 1991 <i>J. Ce</i> 1):131-139 (Exhibit 26) ford, et al., 1986 <i>Endo.</i> " 13 on Alkaline Phosphata	1,25- Dihydroxyvitar	min D ₃ and Hun	nan Bone-Derive	ed Cells in Vitro:
	Bjornson, et al., 1999 Science "Turning Brain into Blood: A Hernatopoetic Pate Adopted by Adult News Storn Collector Vivo " 283-534-537 (Exhibit 28)					
	Bruder, et al., 1997 J. Cell Biochem. "Growth Kinetics, Self-Renewal, and the Osteogenic Potential of Purified Human Mesenchymal Stem Cells During Extensive Subcultivation and Following Cryopreservation," 64:278-294 (Exhibit 29)					
	Butler-Browne, et al., 1990 Anat. Embryol. (Berl) "Myosin heavy and light chain expression during human skeletal muscle development and precocious muscle maturation induced by thyroid hormone," 181:513-522 (Exhibit 30)					
,	1	g S-L., et al., 1994 Endo Induction of the Osteol	"Differentiation of Holast Phenotype by De	luman Bone Ma xamethasone,"	134: 277-286 (E	Stromal Cells in xhibit 31)

DATE CONSIDERED CAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in informance and not considered. Include copy of this form for next communication to the Applicant.

Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet & of . 21 **FORM 1449** Docket Number Application Number MA9658P 10/116,127 INFORMATION DISCLOSURE STATEMENT Applicant IN AN APPLICATION Fraser et al. Group Art Unit Filing Date (Use several sheets if necessary) 3763

12/09/2002

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Chyun, et al., 1984 Endo. "Cortisol Decreases Bone Formation by Inhibiting Periosteal Cell B Proliferation," 114:477-480 (Exhibit 32) Conget, PA and JJ Minguell 1999 J. Cell. Physiol "Phenotypical and Functional Properties of Human Bone Marrow Mesenchymal Progenitor Cells," 181:67-73 (Exhibit 33) Cooper, et al., 1999 J. Endocrinol. "Glucocorticoid activity, inactivity and the osteoblast," 163:159-164 (Exhibit 34) Denker, A.E., et al., 1995 Differentiation "Formation of cartilage-like spheroids by micromass cultures of murine C3H101/2 cells upon treatment with transforming growth factor-\$1, "59: 25-34 (Exhibit 35) Denker, et al., 1999 Differentiation "Chondrogenic differentiation of murine C3H10T1/2 multipotential mesenchymal cells: I. Stimulation by bone morphogenetic protein-2 in high-density micromass cultures," 64:67-76 (Exhibit 36) Dinri, et, al., 1995 Proc. Natl. Acad. Sci. USA "A biomarker that identifies a senescent human cells in culture and in aging skin in vivo," 92: 9363-9367 (Exhibit 37) Ducy, et, al., 1997 Cell "Osf2/Cbfa1: A Transcriptional Activator of Osteoblast Differentiation," 89:747-754 (Exhibit 38) Ferrari G., et al., 1998 Science "Muscle Regeneration by Bone Marrow-Derived Myogenic Progenitors," 279: 1528-1530 (Exhibit 39) Frederikson and McKay 1988 J. Neurosci. "Proliferation and Differentiation of Rat Neuroepithelial Precursor Cells in vivo," 8:1144-1151 (Exhibit 40) Fridman, et al., 1992 Int. J. Cancer "Malignant Transformation of NIH-3T3 Cells After Subcutaneous co-Injection With A Reconstituted Basement Membrane (Matrigel)," 5/(5), 740-44 (Exhibit 41) Grigoradis A., et al., 1988 J. Cell Biol. "Differentiation of Muscle, Fat, Cartilage, and Bone from Progenitor Cells Present in a Bone-derived Clonal Cell Population: Effect of Dexamethasone," 106: 2139-2151(Exhibit 42) Guerriero, V and JR Florini 1980 Endocrinology "Dexamethasone Effects on Myoblast Proliferation and differentiation," 106:1198-1202(Exhibit 43) Hall, BK 1981 "Intracellular and extracellular control of differentiation of cartilage and bone." Histochem. J. 13:599-614(Exhibit 44) Jaiswal, et al., 1997 "Osteogenic Differentiation of Purified, Culture-Expanded Human Mesenchymal Stem Cells In Vitro," J. Cell Biochem. 64:295-312(Exhibit 45) Johnstone B., et al., 1998 "In Vitro Chondrogenesis of Bone Marrow-Derived Mesenchymal Progenitor Cells," Exp. Cell Res. 238: 265-272(Exhibit 46) Kania, et al., 1990 "The Drosophila segmentation gene runt encodes a novel nuclear regulatory protein that is also expressed in the developing nervous system," Genes Dev. 4:1701-1713(Exhibit 47) Kehlen, A. et al., 2000 J. Cell Biochem. "Increased Lymphocytic Aminopeptidase N/CD13 Promoter Activity After Cell-Cells Contact," 80:115-123(Exhibit 48) Kosher, RA, et al., 1986 J. Cell Biol. "Collagen Gene Expression During Limb Cartilage Differentiation," 102:1151-1156(Exhibit 49) Kuri-Harcuch, W. et al., 1984, Differentiation "Extracellular matrix production by mouse 3T3-F442A cells during adipose differentiation in culture," 28(Exhibit 50) Lanier, L.L. et al, 1991 J. Immunol. "Molecular and Functional Analysis of Human Natural Killer Cell-Associated Neural Cells Adhesion Molecule (N-Cam/CD56), "146:4421-4426(Exhibit 51) Lawson-Smith, M.J. and McGeachie, J.K. 1998 J. Anat. "The identification of myogenic cells in skeletal muscle, with emphasis on the use of tritiated thymidine autoradiography and desmin antibodies," 192:161-171 (Exhibit 52)

XAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation of not in conformance and not considered. Include copy of this form for next communication to the Applicant.

Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet 9 of 21 FORM 1449* **Application Number Docket Number** 10/316,137 MA9658P INFORMATION DISCLOSURE STATEMENT **Applicant** IN AN APPLICATION Fraser et al. Group Art Unit Filing Date (Use several sheets if necessary) 12/09/2002 : 3763

. /	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
100	Leboy, et al., 1991 J. Cell Physiol. "Dexamethasone Induction of Osteoblast mRNAs in Rat Marrow Stromal Cell Cultures," 146:370-378 (Exhibit 53)
	Lendahl, et al., 1990 Cell "CNS Stem Cells Express a New Class of Intermediate Filament Protein," 60:585-595 (Exhibit 54)
	Lenoir, N. 2000 Science "Europe Confronts The Embryonic Stem Cell Research Challenge," 287:1425-1427 (Exhibit 55)
	Lumelsky, N., et al. 2001 Science "Differentiation of Embryonic Stem Cells to Insulin-Secreting Structures Similar to Pancreatic Islets," 292:1389-1394. (Exhibit 56)
1	Lynch, et al., 1995, Exp. Cell Res. "The Influence of Type I Collagen on the Development and Maintenance of the Osteoblast Phenotype in Primary and Passaged Rat Calvarial Osteoblasts:
	Modification of Expression of Genes Supporting Cell Growth, Adhesion, and Extracelluar Matrix Mineralization," 216:35-45 (Exhibit 57)
1	Malaval, et al., 1994 J. Cell. Physiol. "Cellular Expression of Bone-Related Proteins During In Vitro Ostegenesis in Rat Bone Marrow Stromal Cell Culture," 158:555-572 (Exhibit 58)
	Manduca, et al., 1992 Eur. J. Cell Biol. "Chondrogenic differentiation in chick embryo osteoblast cultures," 57:193-201 (Exhibit 59)
	Martin, et al., 1999 Exp. Cell Res. "Mammalian Chondrocytes Expanded in the Presence of Fibroblast Growth Factor 2 Maintain the Ability to Differentiate and Regenerate Three-Dimensional Cartilaginous Tissue," 253:681-688 (Exhibit 60)
	Megeney, et al., 1996 Genes Dev. "MyoD is required for myogenic stem cell function in adult skeletal muscle," 10:1173-1183 (Exhibit 61)
	Molkentin and Olson 1996 Curr. Opin. Genet. Dev. "Defining the regulatory networks for muscle development," 6:445-453 (Exhibit 62)
	Mundlos, et al., 1997 Cell "Mutations Involving the Transcription Factor CBFA12 Cause Cleidocranial Dysplasia," 89:773-779 (Exhibit 63)
	Nehls, A. and D Drenckhahn 1991 J. Cell Biol. "Heterogeneity of Microvascular Pericytes for Smooth Muscle Type Alpha-Actin," 113:147-154 (Exhibit 64)
	Owen, TA, et al., 1990 J. Cell Physiol. "Progressive Development of the Rat Osteoblast Phenotype in Vitro: Reciprocal Relationships in Expression of Genes Associated with Osteoblast Proliferation and Differentiation During Formation of the Bone Extracellular Matrix," 143:420-430 (Exhibit 65)
	Paul S.R., et al., 1991 Blood "Stromal Cell-Associated Hernatopoiesis: Immortalization and Characterization of Primate Bone Marrow-Derived Stromal Cell Line," 77: 1723-33 (Exhibit 66)
	Pinenger M.F., et al., 1999 Science "Multilineage Potential of Adult Human Mesenchymal Stem Cells," 284: 143-147 (Exhibit 67)
	Prockop D.J. 1997 Science "Marrow Stromal Cells as Stem Cells for Nonhematopoietic Tissues," 276: 71-74 (Exhibit 68)
	Rando, et al., 1995 Exp. Cell Res. "The Fate of Myoblasts Following Transportation into Mature Muscle," 220:383-389 (Exhibit 69)
	Saalbach, A., et al., 1997 Cell and Tiss. Res. "The Fibroblast-specific MAb ASO2: a novel tool for detection and elimination of human fibroblasts," 290:593-599 (Exhibit 70)
W	Sanchez-Ramos, et al., 2000 "Adult Bone Marrow Stromal Cells Differentiate into Neural Cells in Vitro," Exp. Neurol. 164:247-256 (Exhibit 71)
V	Seale and Rudnicki 2000 Dev. Biol. "A New Look at the Origin, Function, and "Stem-Cell" Status of Muscle Satellite Cells," 218:115-124 (Exhibit 72)

XAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw lide through citation if not in conformance and not considered, toetide copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Borm (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

01PE C.		Sheet toof 2.1	
1449° d	Oocket Number MA9658P	Application Number -10/316,127 143/	
IN AN APPLICATION	Applicant Fraser et al.		
(Use several sheets if necessary)	Filing Date 12/09/2002	Group Art Unit 3763	

/	•	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
11/21		Shukunami, C., et al., 1998 Exp. Cell Res. "Sequential Progression of the Differentiation Program by
		Bone Morphogenetic Protein-2 in Chondrogenic Cell Line ATDCS," 241:1-11 (Exhibit 73)
	 	Shukunami C., et. al., 1996 Journ. Of Cell Bio. "Chrondrogenic Differentiation of Clonal Mouse
١ ١	1	Embryonic Cell Line ATDCS In Vitro: Differentiation-dependent Gene Expression of Parathyroid
1 1	i	
		Hormone (PTH)/PTH-related Peptide Receptor," 133:2:457-468 (Exhibit 74)
1 1	•	Silberstein, L., et al., 1986 Cell "Developmental Progression of Myosin Gene Expression in Cultured
		Muscle Cells," 46:1075-1081 (Exhibit 75)
1 1		Suga, S., et al., 1996, "Eur. J. Cell Biol. "Intracellular localization of antigens recognized by anti-
1 1		vimentin monoclonal antibodies (mAbs): Cross-reactivities of anti-vimentin mAbs with other cellular
l	L	components 70:84-91 (Exhibit 76)
		Tacchetti, C, et al., 1992 Exp Cell Res. "Cell Condensation in Chondrogenic Differentiation," 200:26-33
		(Exhibit 77)
		Tapscott, et al., 1988 Science "MyoD1: A Nuclear Phosphoprotein Requiring a Myc Homology Region
1	İ	to Convert Fibroblasts to Myoblasts," 242:405-411 (Exhibit 78)
	 	Thornell, et al., 1984 J. Neurol. Sci. "Development of Fiber Types in Human Fetal Muscle," 66: 107-115
		(Exhibit 79)
	 	
		Totonoz, et al., 1995 Mucl: Acid Res "mPPARy2: tissue-specific regulator of an adipocyte enhancer,"
'	<u> </u>	(Exhibit 80)
		Tsonis and Goetinck 1990 Exp. Cell Res. "Cell Density Dependent Effect of a Tumor Promoter on
		Proliferation and Chondrogenesis of Limb Bud Mesenchymal Cells," 190:247-253 (Exhibit 81)
		von der Mark, et al., 1977 Nature "Relationship between cell shape and type of collagen synthesised as
		chondrocytes lose their cartilage phenotype in culture," 267:531-532 (Exhibit 82)
		Vukicevic et al., 1992 Exp. Cell Res "Identification of Multiple Active Growth factors in Basement Membrane
		Matrigel Suggests Caution in Interpretation of Cellular Activity Related to Extracellular Matrix Components,".
		202(1), 1-8 (Exhibit 83)
		Weintraub, et al., 1991 Science "The myoD Gene Family: Nodal Point During Specification of the
	ĺ	Muscle Cell Lineage," 251:761-766 (Exhibit 84)
		Woodbury, et al., 2000 J. Neurosci. Res. Science "Adult Rat and Human Bone Marrow Stromal cells
1	٠.	Differentiate Into Neurons," 61:364-370 (Exhibit 85)
	/	Young, 2000 Science "A Time for Restraint," 287:1424. (Exhibit 86)
	-/	
	1/	Zalin, RJ 1987 Exp. Cell Res. "The Role of Hormones and Prostanoids in the in Vitro Proliferation and
$-\Delta$	/	differentiation of Human Myoblasts," 172:265-281. (Exhibit 87)
\ \ y		•
		
	<u> </u>	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Porty (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DATE CONSIDERED

XAMINER

Sheet Hof 21 Application Number **Docket Number** FORM 1449* 10/316,127 437 MA9658P INFORMATION DISCLOSURE STATEMENT Applicant IN AN APPLICATION Fraser et al. Group Art Unit Filing Date 3763 (Use several sheets if necessary)

12/09/2002

U.S. PATENT DOCUMENTS							
MARIE CHARLES SHOW AND SHOW AN							
EXAMINER	DOCUMENT NO.	DATE	NAME	CLASS	SUBCUSS		ROPRIATE
INITIAL							WI TONIE
		FOOGION	PATENT DOCUMEN	Te	l	L	
		FOREIGN					
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRAN	SLATION
						YES	NO
1. /		R DOCUMENTS (Includi					
16,C	ostrol	om, Michael A., "Age-rel olasts," <i>Biochem J.</i> 333:7	87-794. (Exhibit 88)				
107	Aso, 1 None: 213:3	Hisashi, et al., "A Preadip spression of GLUT-4 pro 69-375, (Exhibit 89)	ocyte Clonal Line fro tein during Adipocyte	: Differentiation	n," Biochem. Bio	phys. Res	Commun.
	Bernlohr, David A. et al., "Tissue Specific Expression of p422 protein, A putative Lipid Carrier Mouse Adipocytes," Biochem. Biophys. Res. Comun. 1985 132:850-855. (Exhibit 90)			ier, In			
	Cheifetz, S. et al., "Endoglin Is a Component of the Transforming Growth Factor-8 Receptor Syst Human Endothelial Cells," J. Biol. Chem., 1992 267:19027-19030. (Exhibit 91)			System in			
	Chen, J. Bii	Chen, Theresa L. et al., "10,25-Dihydroxyvitamin D, Receptors in Cultured Rat osteoblast-like Cells," J. Biol. Chem. 1983 258:4350-4355. (Exhibit 92)					
1 —	Enomoto, Hirayuki et al., "Cbfal Is a Positive Regulatory Factor in Chondrocyte Manuration," J. Biol. Chem. 2000 275:8695-8702. (Exhibit 93) Herman, Ira M. and Patricia D'Amore, "Microvascular Pericytes Contain Muscle and Nonmuscle Actins," J. Cell Biol. 1985 101:43-52. (Exhibit 94) Lucas, Paul A. et al., "Mesenchymal Stem Cells From Granulation Tissue," J. Cell Biochem, 1993 17E:122, R212 (Exhibit 95)						
	Maie	ska, Robert J. and Gideor blastic Osteosarcoma Ce	A. Rodan, "The Effe	et of 1,25(OH) 82 257:3362-3	₂ D ₂ on Alkaline l 365. (Exhibit 96	Phosphate)	s in
	Peria	samy, Muthu et al., "Regi	ulation of myosin hear	vy-chain gene e	expression during	g sleletal-r	nuscle
	Polia	hypertrophy," Biochem. J. 1989 257:691-698. (Exhibit 97) Poliard, a. et al., "Controlled Conversion of an Immortalized Mesodermal progenitor Cell Towards osteogenic, Chondrogenic, or Adipogenic Pathways," J. Cell Biol. 1995 130;1461-1472. (Exhibit 98)					
	Price is As (Exh	Paul A. et al., "Matrix Gociated With The Organible 99)	ILA Protein, A New 7 ic Matrix of Bone," E	-Carboxyglutai Biochem. Bioph	mic Acid-Contai ys. Res. Commu	ning Prote 1., 1983 11	in Which 17:765-771.
	Rand	o, Thomas A. and Helen	ated Gene Therapy." J	I. Cell Biol 199	4 125:1275-1287	7. (Exhibi	t 100)
	Weiner, Francis R. et al., "Regulation of collagen Gene Expression in 3T3-L1 Cells. Efects of Adipocyt Bifferentiation and Tumor recrosis Factor q." Biochem 1989 28:4094-4099. (Exhibit 101)					F Adipocyte	
EXAMINER		V ////	DATE CONS	NDERED	101	1111	

EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form PTO-1449

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

./	OIPE FOR
(TITH 2 8 200%
E.	FORM 1449", 9

INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION

(Use several sheets if necessary)

Docket Number MA9658P	Application Number 10/216,127 / 43 (
Applicant Fraser et al.	
Filing Date	Group Art Unit
12/09/2002	3763

101	Williams, Irene H. and S. Esthimios Polakis, "Differentiation of 3T3-L1 Fibroblasts to Adipocytes The Effect Of Indomethacin, Prostaglandin E. And Cyclic AMP On The Process of Differentiation,"
BY	Biochem. Biophys. Res. Commun. 1977 77:175-186. (Exhibit 102)
	Wise, Leigh S. and Howard Green, "Participation of One Isozyme of Cytosolic Glycerophosphate Dehydrogenase in the Adipose Conversion of 3T3 Cells," J. Biol. Chem. 1979 254:273-275.
	(Exhibit 103)
T X	Yoon, Kyonggeun et al., "Characterization of the Rat osteocalcin Gene: Stimulation of Promoter Activity by 1,25-Dihydroxyvitamin D ₃ ." Biochem. 1988 27:8521-8526. (Exhibit 104)
•	
	·
	
	
EXAMINER	ON KEAR DATE CONSIDERED 11126

(AMINER: Initial if reference considered, whether or not clation is in conformance with MPEP 609; draw line through citation if not in unformance and not considered. Include copy of this form for next communication to the Applicant.

*Sub:titute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet i) of 21

FORM 1449*

FORM 1449*

IN AN APPLICATION

Occlet Number

MA9658P

Application Number

MA9658P

Applicant

Fraser et al.

Filing Date

Group Art Unit

12/09/2002

3763

		U.S.	PATENT DOCUMENTS	·		
EXAMINER	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
INITIAL	5,226,914 (Exhibit 105)	07/13/93	Caplan et al.			11/16/90
12-	5,736,398 (Exhibit 106)	04/07/98	Bruder et al.			01/24/95
			Caplan et al.	 		04/11/95
	5,811,094 (Exhibit 107)	09/22/98				05/29/97
	5,817,050 (Exhibit 108)	10/06/98	Klein			
	5,908,784 (Exhibit 109)	06/01/99	Johnstone et al.			11/15/96

	DOCUMENT NO.	DATE COUNTRY	CLASS	SUBCLASS	TRANSLATION		
	DOCOMENT NO.	•		i		YES	NO
117	WO97/18299 (Exhibit 110)	05/22/97	PCT	<u> </u>			X
30	WO97/39104 (Exhibit 111)	10/23/97	PCT		•		X
	W097/40137 (Exhibit 112)	10/30/97	PCT		+		×
	WO97/41208 (Exhibit 113)	11/06/97	PCT		-		X
		05/22/98	PCT	<u> </u>			X
	W098/20731 (Exhibit 114)	07/30/98	PCT				X
	WO98/32333 (Exhibit 115)		PCT				×
	WO98/51317 (Exhibit 116)	11/19/98		<u> </u>	<u> </u>		X
	WO99/01145 (Exhibit 117)	01/14/99	PCT	ļ			X
	WO99/03973 (Exhibit 118)	01/28/99	PCT				X
1	WO99/11789 (Exhibit 119)	03/11/99	PCT			1 .	^

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
ho!	Bastard, J. P. et al., "A Mini-Liposuction Technique Adapted to the Study of Human Adipocyte Glucose Transport System," Diabetologie, 36(Suppl. 1):A135, 1993 (Exhibit 120) Ceptan, Arnold I., "The Mesengenic Process," Clinics in Plestic Surgery, 21:429-35, 1994 (Exhibit 121)		
	Crandall, David L. et al., "Identification of Estrogen Receptor RNA in Human Breast and Abdominal Subcutaneous Adipose Tissue." Biochemical and Biophysical Research Communications, 248:523-6, 1998 (Exhibit 122)		
EXAMINER	DATE CONSIDERED 77		
conformance and not soft	chose considered whether or not citation is in conformance with MPER 609; draw line through citation if not in sixtense include copy of this form for next communication to the Applicant. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE are communication.		

Sheet 4 of 1 Application Number **Docket Number** 10/316127 MA9658P INFORMATION DISCLOSURE STATEMENT Applicant IN AN APPLICATION Fraser et al. Group Art Unit Filing Date 3763 12/09/2002 : (Use several sheets if necessary)

		OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
(M	7	Hauner, Hans et al., "Promoting Effect of Glucocorticoids on the Differentiation of Human Adipocyte Precursor Cells Cultured in a Chemically Defined Medium," Journal of Clinical Investigation, 84:1663-70, 1989 (Exhibit 123)
-		Hauner H. et al., "Glucocorticoids and Insulin Promote the Differentiation of Human Adipocyte Precursor Calls into Eat Cells." Journal of Clinical Endocrinology and Metabolism, 64:832-5, 1987 (Exhibit 124)
		Johnson, P. R. et al., "Uncontrolled adipocyte proliferation is not the primary lesion in the genetically- obese Zucker rat," International Journal of Obesity, 5:563-70, 1981 (Exhibit 125)
	· .	Killinger, D. W. et al., "Influence of Adipose Tissue Distribution on the Biological Activity of Androgens," Appair New York Academy of Sciences, 595:199-211, 1990 (Exhibit 126)
		Killinger, Donald W. et al., 'The Relationship Between Aromatase Activity and Body Fat Distribution,' Stemids, 50:61-72, 1987 (Exhibit 127)
	·	Lafontan, M. et al., "Réflexions sur une nouvelle approche de chirurgie plastique réparatrice: la réimplantation de fragments de tissu adipeux prélevés par liposuccion," Ann. Chur. Plast. Esthet., 34:77-
		Lam, Anson and Ronald Moy, "The Potential for Fat Transplantation," J. Dermatol. Surg. Oncol., 18:432-
		Lecoeur, L. and J. P. Ouhayoun, "In vitro induction of osteogenic differentiation from non-osteogenic moscochymal cells." Riomaterials, 18:389-93, 1997 (Exhibit 130)
		Loncar, D., "Ultrastructural analysis of differentiation of rat endoderm in vitro. Adipose vascular-stromal cells induce endoderm differentiation, which in turn induces differentiation of the vascular-stromal cells into chondrocytes," J. Submicrosc. Cytol. Pathol., 24:509-19, 1992 (Exhibit 131)
		Novakofski, Jan E., "Primary Cell Culture of Adipose Tissue," Biology of the Adipocyte: Research Approaches, Van Nostrand Reinhold Company, NY, 1987 160-97 (Exhibit 132)
		Pedersen, S. B. et al., "Identification of oestrogen receptors and oestrogen receptor many in numan adjacent testing " Furneau Journal of Clinical Investigation, 26:262-9, 1996 (Exhibit 133)
		Pettersson, Per et al., "Adipocyte Precursor Cells in Obese and Nonobese Humans," Metabolism, 34:506-
		Ramsay, T. G. et al., "Pre-Adipocyte Proliferation and Differentiation in Response to Hormone Supplementation of Decapitated Fetal Pip Sera." J. Anim. Sci., 64:735-44, 1987 (Exhibit 135)
		Rubens, F. D. et al., "Tissue Factor Expression by Cells Used for Sodding of Prosthetic Vascular Grans, Invested for Sodding Organic Vascular Grant Gr
H		Smahel, J., "Aspiration lipectorry and adipose tissue injection: pathophysiologic commentary," European
		Springhorn, Jeremy P. et al., "Human Capillary Endothelial Cells from Abdominal Wall Adipose 11stue: Isolation Using an Anti-Pecam Antibody," In Vitro Cellular & Developmental Biology-Animal, 31:473-81, 1995 (Exhibit 138)
14	1	Tavassoli, Mahdi, "In Vivo Development of Adipose Tissue Following Implantation of Lipid-Depleted Cultivary Adiposets Functional Cell Research 137:55-62, 1982 (Exhibit 139)
A		Williams, John T. et al., "Cells Isolated from Adult Human Skeletal Muscle Capable of Differentiating into Multiple Mesengarmal Phenotypes." The American Surgeon, 65:22-6, 1999 (Exhibit 140)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

Substitute Disclosure Statement Form (PTO-1849)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

OIPE VOI		Sheet IS of 21	
PARM 1449" INFORMATION DISCLOSURE STATEMENT	Docket Number MA9658P	Application Number	
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION	Applicant Fraser et al.		
(Use several sheets if necessary)	Filing Date 12/09/2002 :	Group Art Unit 3763	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
Williams, Stuart K. et al., "Uposuction-derived human fat used for vascular graft sodding contains endothelial cells and not mesothelial cells as the major cell type," Journal of Vescular Surgery, 19:916-23, 1994 (Exhibit 141)
Wiodarski, Krzysztof H., "Section III. Basic Science and Pathology. Properties and Origin of Osteoblasts," Chairal Orthogaerics and Related Research, 252:276-93, 1990 (Exhibit 142)
Ahrens, Patricia Buckley et al., "Stage-Related Capacity for Limb Chondrogenesis in Cell Culture," Developmental Richard, 1977, 60:69-82 (Exhibit 143)
Alameddine, Hala S. et al., "Regeneration of Skeletal Muscle Fibers from Autologous Satellite Cells Multiplied In Vitro. An Experimental Model for Testing Cultured Cell Myogenicity," Muscle & Nerve, 1989. 12:544-55 (Exhibit 144)
Angele, P. et al., "Engineering of Osteochondral Tissue with Bone Marrow Mesenchymal Progenitor Cells in a Derivatized Hyaturonan-Getatin Composite Sponge," Tissue Engineering, 1999, 5:545-53
Bailey, A. J. et al., "Age-Related Changes in the Biochemical Properties of Human Cancellous Bone Collegen: Relationship to Bone Strength," Calcified Tissue International, 1999, 65:203-10 (Exhibit 146)
Barghorn, A. et al., "o-Smooth Muscle Actin Distribution in the Pulmonary Vasculature Companing Hypoplastic and Normal Fetal Lungs," Pediatric Pathology & Laboratory Medicine, 1998, 18:5-22
Baylink, David J., "Glucoconicold-Induced Osteoporosis," The New England Journal of Medicine, 1983,
Becerra, José et al., "Demineralized Bone Matrix Mediates Differentiation of Bone Marrow Stromal Cells In Vitro: Effect of Age of Cell Donor," Journal of Bone and Mineral Research, 1996, 11:1703-14
Beiser, tan H. and Irvin O. Kanat, "Subchondral Bone Drilling: A Treatment for Cartilage Defects," Journal
Breen, Ellen C. et al., "TGFI) Alters Growth and Differentiation Related Gene Expression in Proliferating Osteoblasts in Vitro, Preventing Development of the Mature Bone Phenotype," Journal of Cellular Observed 1994, 150-221, 35 (Exhibit 151)
Bruder, Scott P. et al., "Bone Regeneration by Implantation of Punhed, Culture-Expanded Human Mesoschymal Stem Calls." Journal of Orthopaedic Research, 1998, 18:155-62 (Exhibit 152)
Butnariu-Ephrat, Miriam et al., "Resurfacing of Goat Articular Cartilage by Chondrocytes Derived From Bone Marrow," Clinical Orthopaedics and Related Research, 1996, 330:234-43 (Exhibit 153)
Campion, Dannis R., "The Muscle Satellite Cell: A Review," Internationals Review of Cytology, 1984, 87:225-51 (Exhibit 154)
Caplan, Amold I., "Mesenchymal Stem Cells," Journal of Orthopaedic Research, 1991, 9:641-50
(Exhibit 155) Captan, Arnold I., "The Mesengenic Process," Clinics in Plastic Surgery, 1994, 21:429-35 (Exhibit 156)
Carranza-Bencano, A. et al., "Comparative Study of the Reconstruction of Articular Cartilage Defects with Free Costal Perichondrial Grafts and Free Tibial Periosteal Grafts: An Experimental Study on Rabbits," Calcified Tissue International, 1999, 65:402-7 (Exhibit 157)
EXAMINER DATE CONSIDERED W/25
EXAMINER: Initiat II reference considered, whether or not citation is in conformance with MPEP 609; draw line/through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.
*Substitute Disclosure Statement Form (PPO 1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet 16 of 21

FORM 1449*

PORM 1449*

INFORMATION DISCLOSURE STATEMENT

IN AN APPLICATION

Fraser et al.

Filing Date

Group Art Unit

(Use several sheets if necessary)

Sheet 16 of 21

Docket Number

MA9658P

10/316;197 1/43 /

Applicant

Fraser et al.

Filing Date

12/09/2002

3763

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
BU	Chen, Xiaoti et al., 'Differentiation-dependent expression of obese (ob) gene by preadipocytes and adipocytes in primary cultures of porcine stromal-vascular cells,' Biochimica et Biophysica Acta. 1997, 1359:136-42 (Exhibit 158)
	Chimal-Monroy, Jasús and Lino Diaz de León, "Expression of N-cadherin, N-CAM, fibronectin tenascin is stimulated by TGF-β1, β2, β3 and β5 during the formation of precartilage condensations." The International Journal of Developmental Biology, 1999, 43:59-67 (Exhibit 159)
	Deng, Weiwen et al., "In Vitro Differentiation of Human Marrow Stromal Cells into Early Progenitors of Neural Cells by Conditions That Increase Intracellular Cyclic AMP," Biochemical and Biophysical Research Communications, 2001, 282:148-52 (Exhibit 160)
	Dennis, James E. et al., "A Quadripotential Mesenchymal Progenitor Cell Isolated from the Marrow of an Adult Mouse," Journal of Bone and Mineral Research, 1999, 14:700-9 (Exhibit 161)
	Dias, Peter et al., "The Molecular Basis of Skeletal Muscle Differentiation," Seminars in Diagnostic Pathology, 1994, 11:3-14 (Exhibit 162)
·	Diefenderfer, David L. and Carl T. Brighton, "Microvascular Pericytes Express Aggrecan Message Which is Regulated by BMP-2," Biochemical and Biophysical Research Communications, 2000, 269:172-8 (Exhibit 163)
	Eisenberg, Shlomo, "High density lipoprotein metabolism," Journal of Lipid Research, 1984, 25:1017-58 (Exhibit 164)
	Fajas, Lluis, et al., "Transcriptional control of adipogenesis," Current Opinion in Cell Biology, 1998, 10:165-73 (Exhibit 165)
3 .	Famdale, Richard W. et al., "Improved quantitation and discrimination of sulphated glycosaminoglycans by use of dimethylene blue," Biochimica et Biophysica Acta, 1986, 883:173-7 (Exhibit 166)
	Fülöp, Csaba et al., "Expression of Alternatively Spliced Epidermal Growth Factor-like Domains in Aggrecans of Different Species." The Journal of Biological Chemistry, 1993, 268:17377-83 (Exhibit 167)
-	Głowacki, J., "Influence of Age on Human Marrow," Calcified Tissue International, 1995, 56(Supp. 1):S50-1 (Exhibit 168)
	Grigoriadis, Agamemnon E. et al., "Analysis of chondroprogenitor frequency and cartilage differentiation in a novel family of clonal chondrogenic rat cell lines," Differentiation, 1996, 60:299-307 (Exhibit 169)
	Hardingham, Tim et al., "Studies on the Synthesis, Secretion and Assembly of Proteoglycan Aggregates by Chondrocytes," Matrices and Cell Differentiation, 1984, 151:17-29 (Exhibit 170)
	Haynesworth, S. E. et al., 'Cell Surface Antigen on Human Marrow-Derived Mesenchymal Cells are Detected by Monoctonal Antibodies,' <i>Bone</i> , 1992, 13:69-80 (Exhibit 171)
	Huss, Raff, "Isolation of Primary and Immortalized CD34" Hematopoietic and Mesenchymal Stem Cells from Various Sources," Stem Cells, 2000, 18:1-9 (Exhibit 172)
	Wasaki, Motoki et al., "Regulation of Proliferation and Osteochondrogenic Differentiation of Periosteum- Derived Cells by Transforming Growth Factor-B and Basic Fibroblast Growth Factor," Journal of Bone and Joint Surgery, 1995, 77A:543-54 (Exhibit 173)
	Katz, Adam J. et al., "Emerging Approaches to the Tissue Engineering of Fat," Clinics in Plastic Surgery, 1999, 26:587-603 (Exhibit 174)

EXAMINER	DATE CONSIDERED 12/12/5
EXAMINER: Initial it reference considered, whether or not citation is conformance and not considered. Include copy of this form for nex	s in conformance with MPEP 609/draw line through citation if not in the communication to the Applicant.
*Substitute Disclosure Statement Form (PYO-1449)	Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Sheet 17 of 21 **Application Number** Docket Number 100 143 MA9658P . INFORMATION DISCLOSURE STATEMENT Applicant IN AN APPLICATION Fraser et al. Group Art Unit Filing Date (Use several sheets if necessary) 3763 12/09/2002 :

() /	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
1/2	Kirsch, Thorsten and Klaus von der Mark, "Remodelling of collagen types I, II and X and calcification of human fetal cartilage," Bone and Mineral, 1992, 18:107-17 (Exhibit 175)
1	Kosher, Robert A. and Michael Solursh, "Widespread Distribution of Type II Collagen during Embryonic Chick Development." Developmental Biology, 1989, 131:558-66 (Exhibit 176)
	Lazarus, Hillard M. et al., "Human Bone Marrow-Derived Mesenchymal (Stromal) Progenitor Cells (MPCs) Cannot Be Recovered from Peripheral Blood Progenitor Cell Collections," Journal of Hematotherapy, 1997, 6:447-55 (Exhibit 177)
	Leboy, Phoebe S. et al., "Ascorbic Acid Induces Alkaline Phosphatase, Type X Collagen, and Calcium Deposition in Cultured Chick Chondrocytes," The Journal of Biological Chemistry, 1989, 264:17281-6 (Exhibit 178)
	Les, Yun-Shain and Cheng-Ming Chuong, "Adhesion Motecutes in Skeletogenesis: I. Transient Expression of Neural Cell Adhesion Motecutes (NCAM) in Osteoblasts During Endochondral and Intramembranous Ossification," Journal of Bone and Mineral Research, 1992, 7:1435-46 (Exhlbit 179)
	Lennon, Donald P. et al., "Human and Animal Mesenchymal Progenitor Cells from Bone Marrow: Identification of Serum for Optimal Selection and Proliferation," In Vitro Cell. Dev. Biol Animal, 1996, 32:602-11 (Exhibit 180)
	Lev, Robert and S. S. Spicer, "Specific Staining of Sulphate Groups with Alclan Blue at Low pH," J. Histochem, Ovtochem, 1964, 12:309-10 (Exhibit 181)
	Long, Michael W. et al., "Age-Related Phenotypic Alterations in Populations of Purified Human Bone Precursor Cells," The Journals of Gerontology, 1999, 54A:854-62 (Exhibit 182)
	Lucas, P. A. et al., "Isolation of Putative Mesenchymal Stem Cells from Rat Embryonic and Adult Skeletal Muscle," In Vitro Cell Dev. Biol., 1992, 28:154A (Exhibit 183)
·	MacDougald, Ormand A. and M. Daniel Lane, "Transcriptional Regulation of Gene Expression During Adipocyte Differentiation," Annu. Rev. Biochem., 1995, 64:345-73 (Exhibit 184)
	Mullen, Richard J. et al., "NeuN, a neuronal specific nuclear protein in vertebrates," Development, 1992. 118:201-11 (Exhibit 185)
	Nagle, R. B. et al., "Factor VII-Associated Antigen in Human Lymphatic Endothelium," Lymphology, 1987, 20:20-4 (Exhibit 186)
	Nakahara, H. et al., "Bone and Cartilage Formation in Diffusion Chambers by Subcultured Cells Derived from the Periosteum," Bone, 1990, 11:181-8 (Exhibit 187)
	Nakano, Hirotaka et al., "RT-PCR Suggests Human Skeletal Muscle Origin of Alveolar Soft-Part Sarcoma," Oncology, 2000, 58:319-23 (Exhibit 188)
17	O'Driscoll, Shawn W., "Current Concepts Review: The Healing and Regeneration of Articular Cartilage," Journal of Bone and Joint Surgery, 1998, 80A:1795-812 (Exhibit 189)
	Otson, E. N. et al., "Know Your Neighbors: Three Phenotypes in Null Mutants of the Myogenic bHLH Gene MRF4," Cell, 1996, 85:1-4 (Exhibit 190)
	Pairautt, Jacques and Howard Green, "A study of the adipose conversion of suspended 3T3 cells by using glycerophosphate dehydrogenase as differentiation marker," Proc. Natl. Acad. Sci. USA, 1979, 76:5138-42 (Exhibit 191)
	Park, S. R. et al., "Interconversion Potential of Clone Human Marrow Adipocytes In Vitro," Bone, 1999, 24:549-549(Exhibit 192)

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Unclude copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO 1449)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DATE CONSIDERED

EXAMINER

JUH 2 8 2004 FORM 14497

> INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION

Application Number Docket Number 10/216327 MA9658P Applicant Fraser et al. Group Art Unit Filing Date

12/09/2002 -

3763

(Use several sheets if necessary)

,	OTHER DOCUMENTS (Including Author, Title, Date, Perdnent Pages, Etc.)				
136	. Pettersson, Per et al., "Cells in Human Adipose Tissue Developing into Adipocytes," Acta Med Scand, 1984, 215:447-51 (Eachibit 193)				
17	Pierelli, Luca et al., "CD34+/CD105+ cells are enriched in primitive circulating progenitors residing in the G0 phase of the cell cycle and contain all bone marrow and cord blood CD34+/CD38 precursors," British Journal of Hisematology, 2000, 108:610-20 (Exhibit 194)				
	Price, Paul A, "GLA-Containing Proteins of Bone," Connective Tissue Research, 1989, 21:51-60 (Exhibit 195)				
	Price, Paul A. and Sharon A. Baukol, "1,25-Dihydroxyvitamin D ₃ Increases Synthesis of the Vitamin K-dependent Bone Protein by Osteosarcoma Cells," The Journal of Biological Chemistry, 1980, 255:11660-3 (Exhibit 196)				
	Probst, M. et al., "Homologous bladder augmentation in dog with the bladder acellular matrix graft," BJU International, 2000, 85:382-71 (Exhibit 197)				
·	Richardson, J. B. et al., "Repair of human articular cartilage after implantation of autologous chondrocytes," The Journal of Bone and Joint Surgery, 1999, 81:1064-8 (Exhibit 198)				
	Rickard, David J. et al., "Isolation and Characterization of Osteoblast Precursor Cells from Human Bone Marrow." Journal of Bone and Mineral Research, 1996, 11:312-24 (Exhibit 199)				
	Samat, Harvey B. et et., "Neuronal nuclear antigen (NeuN): a marker of neuronal maturation in the early human fetal nervous system," Brain & Development, 1998, 20:88-94 (Exhibit 200)				
	Scott, Douglas M. et al., "Collagen Synthesis in Cultured Osteoblast-like Cells," Archives of Biochemistry and Ripolysics, 1980, 201:384-91 (Exhibit 201)				
	Shathoub, Victoria et al., "Downregulation of Cell Growth and Cell Cycle Regulated Genes during Chick Osteoblast Differentiation with the Reciprocal Expression of Histone Gene Variants," Biochemistry, 1989, 28:5318-22 (Exhibit 202)				
	Siffert, Robert S., "The Role of Alkatine Phosphalase in Osteogenesis," The Journal of Experimental Medicine, 1951, 93:415-26 (Exhibit 203)				
'	Syrjala, M. et al., "A flow cytometric assay of CD34-postitive cell populations in the bone marrow," British Lournal of Hapmatotogy, 1994, 88:679-84 (Exhibit 204)				
	Tacchetti, C. et al., "In Vitro Morphogenesis of Chick Embryo Hypertrophic Cartilage," The Journal of Cell Biology, 1987, 105:999-1006 (Exhibit 205)				
	Tontonoz, Peter et al., "mPPARy2: tissue-specific regulator of an adipocyte enhancer," Genes & Development, 1994, 8:1224-34 (Exhibit 208)				
	Trayhum, P. and Margaret Ashwell, "Control of white and brown adipose tissues by the autonomic nervous system." The Proceedings of the Nutrition Society, 1987, 48:135-42 (Exhibit 207)				
	Vandenburgh, Herman H. and Patricia Karlisch, "Longitudinal Growth of Skeletal Myotubes in Vitro in a New Horizontal Mechanical Cell Stimulator," In Vitro Cellular & Developmental Biology, 1989, 25:607-16 (Exhibit 208)				
	Wakitani, Shigeyuki et al., "Mesenchymal Cell-Based Repair of Large, Full-Thickness Defects of Articular Cartilage," The Journal of Bone and Joint Surgery, 1994, 76A:579-92 (Exhibit 209)				
	Wakitani, Shigeyuki et al., "Myogenic Cells Derived from Rat Bone Marrow Mesenchymal Stem Cells Exposed to 5-Azacvtidine," Muscle & Nerve, 1995, 18:1417-26 (Exhibit 210)				
7/1	Weintraub, Harold et al. Tissue-specific gene activation by MyoD: determination of specificity by cisacting repression elements, "Genes & Development, 1994, 8:2203-11 (Exhibit 211)				
EXAMINER	DATE CONSIDERED 17/15				

EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include citation for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO)449)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

OIPE E		Sheet 19 of 21		
FORM 1449 W INFORMATION DISCLOSURE STATEMENT	Oocket Number MA9658P	Application Number		
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION	Applicant Fraser et al.			
(Use several sheets if necessary)	Filing Date 12/09/2002	Group Art Unit 3763		

	OTHER ROCKHIENTS (Land disc Author Title Date Designed Process Cite)
	OTHER DOCUMENTS (Including Author, Title, Oate, Pertinent Pages, Etc.)
b.	Yoo, Jung U. and Brian Johnstone, "The Role of Osteochondral Progenitor Cells in Fracture Repair," Clinical Orthopeedics and Related Research, 1998, 355S:S73-81 (Exhibit 212)
	Young, Henry E. et al., "Human Pluripotent and Progenitor Cells Display Cell Surface Cluster Differentiation Markers CD10, CD13, CD56, and MHC Class-I (4436)," Proc. Soc. Exp. Biol. Med., 1999, 221:63-71 (Exhibit 213)
,	Zezulak, Kathleen M. and Howard Green, "Specificity of Gene Expression in Adipocytes," Molecular and Cellular Biology, 1985, 5:419-21 (Exhibit 214)
	Zohar, R. et al., "Analysis of intracellular esteopentin as a marker of esteoblastic cell differentiation and mesenchymal cell migration," European Journal of Oral Sciences, 1998, 106(Supp. 1):401-7 (Exhibit 215)
//	Zuk, Patricia Z. et al., "Multilineage Cells from Human Adipose Tissue: Implication for Cell-Based Theraples," Tissue Engineering, 2001, 7:211-28 (Exhibit 216)
Ŋ	
-	
XAMINER	DATE CONSIDERED 12/12/1
XAMINER: Initial	if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citational not in
	not considered. Modude copy of this form for next communication to the Applicant. Patent and Trademark Office; U.S. DEPARTMENT ØF COMMERC

FORM 1448

XAMINER

INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION

Docket Number MA9658P	Application Number 10014,127 / 43/
Applicant	
Fraser et al.	
Filing Date	Group Art Unit
12/09/2002	3763

(Use several sheets if necessary)

U.S. FAIENT DOCUMENTS									
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE			
		·	<u> </u>	<u> </u>	<u> </u>	<u>L</u>			
FOREIGN PATENT DOCUMENTS									
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION			
	•					YES	YES NO		
		IER DOCUMENTS (Inclu							
LBC	Boskey, et al., 1985, "The Effect of Osteocalcin on In Vitro Lipid-Induced Hydroxyapatite Formation and Seeded Hydroxyapatite Growth," Calc. Tiss. Int. 37:75. (Exhibit 217)								
1	Fortier, Lisa, et al., 2000, "Isolation and chondrocytic differentiation of equine bone marrow-derived mesenchymal stem cells," Am. J. Vet. Res. 59:1182-1187. (Exhibit 218)								
	Huibregtse, Barbara, et al., 1998, "Effect of Age and Sampling Site on the Chondro-Osteogenic Potential of Rabbit Marrow-derived Mesenchymal Progenitor Cells," Journal of Orthopaedic Research. 18:18-24. (Exhibit 219)								
	Linsenmayer, Thomas et al., 1998, "Type X Collagen: A Hypertrophic Cartilage-Specific Molecule," Pathol. Immunopathol. 7:14-19. (Exhibit 220)								
1./	Nakajima, I. et al., 1998, "Adipose tissue extracellar matrix: newly organized by adipocytes during differentiation," Differentiation 63:193-200. (Exhibit 221)								
1.17	2:47	ifler, et al., 2000, "Mesen 17-488. (Exhibit 222)							
α		d et al., 1999, "Human Si 600A (Exhibit 225)	ubeutaneouspreadipoe	rtes Differentiat	e Into osteoblasts	," FASEL	} Journal		
	Smith et al., 2000, "Mesenchymal Stem Cells Derived From Bone Marrow And Human Adipose Tissue Exhibit Multilineage Potential," Journal of Investigative Medicine, 95A. (Exhibit 226)								
	·				•				
							•		
				·		<u> </u>	·		
			•						
,							·		
			•						
			•						
	1 //	. //_		_					

OXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DATE CONSIDERED



EXAMINER

INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION

Applicant Fraser et al.

Docket Number MA9658P

1001121

Application Number

(Use several sheets if necessary)

Filing Date Group Art Unit 12/09/2002 3763

U.S. PATENT DOCUMENTS								
EXAM!	-	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS		G DATE ROPRIATE
17	7	5,854,292	December 29, 1998	Ailhaud et al.				
1 位	$^{\circ}$		(Exhibit 235)					
			FOREIGN	PATENT DOCUMEN	TS			
		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
		WO 99/28444	June 10, 1999	PCT				
		(Exhibit 223)		200			-	
	Ì	WO 99/02654 (Exhibit 224)	January 21, 1999	PCT				
		WO 00/53795	September 14, 2000	PCT				
		(Exhibit 231)		OCT				•
	•	WO 01/62901 A2 (Exhibit 232)	August 30, 2001	PCT		•		
		WO 01/21767	March 29, 2001	PCT		,		
		(Exhibit 233)		PCT				
1		WO 97/26326 (Exhibit 238)	July 24, 1997	PCI	·			
		OTHE	R DOCUMENTS (Includi	ng Author, Titte, Date	, Pertinent Page	s, Etc.)		
	Stashower et al., 1999, "Stromal progenitor cells present within liposuction and reduction abdominoplasty fat for autologous transfer to aged skin," Dermatologic Surgery, 25:12:945-949. (Exhibit 227)							
		Strutt et al., 1996, "Growth and differentiation of human adipose stromal cells in culture," methods in Molecular Medicine: Human Cell Culture Protools, 41-51. (Exhibit 228)						
	Tavassoli et al., 1981, "The Nature of Fibroblasts Derived From Adipose Tissue In-Vitro," Clinical Research, 29:5:871A. (Exhibit 229)						nical	
	Van et al., 1978, "Complete Differentiation of Adipocyte Precursors," Cell Tissue, 195:317-329. (Exhibit 230)						9.	
	Soda, et al., 1983, "Adipocyte stem cell: A brief review," Int. J. of Cell Cloning, 1:79-84. (Exhibit 234)							
	Ailhaud, et al., 1983, "Hormonal requirements for growth and differentiation of OB17 preadipocyte cells in vitro," Diabete & Metabolisme, Vol. 9:125-133. (Exhibit 237)							
		Ailha	Ailhaud, et al., 1985, "Lipoprotiene lipase et differenciation adipocytaire," Reprod. Nutr. Develop., Vol. 25:153-158. (Exhibit 238)					
	,	Zuk,	Patricia A. et al., "Human by of the Cell, 2002, 13:4:			tipotent Stem Cel	ls," Mole	cular
	1	Gimb	le, Jeffery M. et al., "Adi bit 240)	pose tissue-derived th	erapeutics," Ex	pert Opin. Biol.,	2003, 3(5)	705-713
	Safford, Kristine M. et al., "Neurogenic differentiation of murine and human adipose-derived stromal cells," Biochemical and Biophysical Research Communications, 2002, 371-379. (Exhibit 241)					stromal		
. A	/	· · · · · · · · · · · · · · · · · · ·	P - /)	The second comments of the second	HEALESTONS, EV	, , , , , , ,		/

EXAMINER: Initial it reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered, tocked copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTP-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DATE CONSIDERED